CONTENTS OF VOLUME XXXVII

NO. 1. JANUARY 1974

Fine structure of granular layer in turtle cerebellum with emphasis on large glomeruli. E. MUGNAINI, R. L. ATLURI, AND J. C. HOUK 1
Identification of unitary potentials in turtle cerebellum and correlations with structures in granular layer. J. V. WALSH, J. C. HOUK, AND E. MUGNAINI 30
Reconstruction of population response to a vibratory stimulus in quickly adapting mechanoreceptive afferent fiber population innervating glabrous skin of the monkey. K. O. JOHNSON 48
Response characteristics of single units in the rat's trigeminal nuclei to vibrissa displacements. M. T. SHIPLEY 73
A stereologic model of pneumotaxic oscillator based on spatial and temporal distributions of neuronal bursts. F. BERTRAND, A. HUGELIN, AND J. F. VIBERT 91
Central nervous control of excitatory and inhibitory neurons of opener muscle of the crayfish claw. D. O. SMITH 108
Differential contributions of spinal pathways to body representation in postcentral gyrus of *Macaca mulatta*. D. A. DREYER, R. J. SCHNEIDER, C. B. METZ, AND B. L. WHITSEL 119
Visuovestibular interactions in the cat superior colliculus. S. BISTI, L. MAFFEI, AND M. PICCOLINO 146
Further study on mass receptor potential of carotid body chemosensors. C. EYZAGUIRRE AND K. NISHI 156
A basis for extracellular current density analysis in cerebellar cortex. H. C. KWAN AND J. T. MURPHY 170
Response characteristics of single cells in the monkey superior colliculus following ablation or cooling of visual cortex. P. H. SCHILLER, M. STRYKER, M. CYNADER, AND N. BERMAN ... 181
Organization of vestibular nystagmus in oblique oculomotor system. R. BAKER AND A. BERTHOZ 195
Observations on phase-sensitive neurons of anteroventral cochlear nucleus of the cat: nonlinearity of cochlear output. J. E. ROSE, L. M. KITZES, M. M. GIBSON, AND J. E. HIND 218
Single-unit responses of caudate neurons to stimulation of frontal cortex, substantia nigra and entopeduncular nucleus in cats. S. L. LILES 254
Announcements 266

NO. 2. MARCH 1974

Impulse generation in type I cutaneous mechanoreceptors. K. W. HORCH, D. WHITEHORN, AND P. R. BURGESS 267
Identification of muscle afferents which activate interneurons in the intermediate nucleus. M. E. LUCAS AND W. D. WILLIS 282
Discharge patterns of Renshaw cells evoked by volleys in ipsilateral cutaneous and high-threshold muscle afferents and their relationship to reflexes recorded in ventral roots. M. F. PIERCEY AND J. GOLDFARB 294
Responses of cat spinal motoneuron somata and axons to linearly rising currents. W. R. SCHLUE, D. W. RICHTER, K.-H. MAURITZ, AND A. C. NACIMIENTO 303
Mechanisms of accommodation to linearly rising currents in cat spinal motoneurons. W. R. SCHLUE, D. W. RICHTER, K.-H. MAURITZ, AND A. C. NACIMIENTO 310
Participation of medial pontine reticular formation in eye movement generation in monkey. E. L. KELLER 316
Extracellular current density analysis of responses in cerebellar cortex to climbing fiber activation. H. C. KWAN AND J. T. MURPHY 333

CONTENTS OF VOLUME XXXVII

NO. 1. JANUARY 1974

Fine structure of granular layer in turtle cerebellum with emphasis on large glomeruli. E. MUGNAINI, R. L. ATLURI, AND J. C. HOUK 1
Identification of unitary potentials in turtle cerebellum and correlations with structures in granular layer. J. V. WALSH, J. C. HOUK, AND E. MUGNAINI 30
Reconstruction of population response to a vibratory stimulus in quickly adapting mechanoreceptive afferent fiber population innervating glabrous skin of the monkey. K. O. JOHNSON 48
Response characteristics of single units in the rat's trigeminal nuclei to vibrissa displacements. M. T. SHIPLEY 73
A stereologic model of pneumotaxic oscillator based on spatial and temporal distributions of neuronal bursts. F. BERTRAND, A. HUGELIN, AND J. F. VIBERT 91
Central nervous control of excitatory and inhibitory neurons of opener muscle of the crayfish claw. D. O. SMITH 108
Differential contributions of spinal pathways to body representation in postcentral gyrus of *Macaca mulatta*. D. A. DREYER, R. J. SCHNEIDER, C. B. METZ, AND B. L. WHITSEL 119
Visuovestibular interactions in the cat superior colliculus. S. BISTI, L. MAFFEI, AND M. PICCOLINO 146
Further study on mass receptor potential of carotid body chemosensors. C. EYZAGUIRRE AND K. NISHI 156
A basis for extracellular current density analysis in cerebellar cortex. H. C. KWAN AND J. T. MURPHY 170
Response characteristics of single cells in the monkey superior colliculus following ablation or cooling of visual cortex. P. H. SCHILLER, M. STRYKER, M. CYNADER, AND N. BERMAN ... 181
Organization of vestibular nystagmus in oblique oculomotor system. R. BAKER AND A. BERTHOZ 195
Observations on phase-sensitive neurons of anteroventral cochlear nucleus of the cat: nonlinearity of cochlear output. J. E. ROSE, L. M. KITZES, M. M. GIBSON, AND J. E. HIND 218
Single-unit responses of caudate neurons to stimulation of frontal cortex, substantia nigra and entopeduncular nucleus in cats. S. L. LILES 254
Announcements 266

NO. 2. MARCH 1974

Impulse generation in type I cutaneous mechanoreceptors. K. W. HORCH, D. WHITEHORN, AND P. R. BURGESS 267
Identification of muscle afferents which activate interneurons in the intermediate nucleus. M. E. LUCAS AND W. D. WILLIS 282
Discharge patterns of Renshaw cells evoked by volleys in ipsilateral cutaneous and high-threshold muscle afferents and their relationship to reflexes recorded in ventral roots. M. F. PIERCEY AND J. GOLDFARB 294
Responses of cat spinal motoneuron somata and axons to linearly rising currents. W. R. SCHLUE, D. W. RICHTER, K.-H. MAURITZ, AND A. C. NACIMIENTO 303
Mechanisms of accommodation to linearly rising currents in cat spinal motoneurons. W. R. SCHLUE, D. W. RICHTER, K.-H. MAURITZ, AND A. C. NACIMIENTO 310
Participation of medial pontine reticular formation in eye movement generation in monkey. E. L. KELLER 316
Extracellular current density analysis of responses in cerebellar cortex to climbing fiber activation. H. C. KWAN AND J. T. MURPHY 333

Connections between semicircular canals and neck motoneurons in the cat. V. J. Wilson and M. Maeda 346
Responses of primate spinothalamic tract neurons to natural stimulation of hindlimb. W. D. Willis, D. L. Trevino, J. D. Coulter, and R. A. Maunz 358
Precentral and postcentral cortical activity in association with visually triggered movement. E. V. Evarts 373
George Holman Bishop 382
Announcements 384

NO. 3. MAY 1974

Effect of lesions of cortical motor areas on acquisition of conditioned eye blink in the cat. C. Woody, P. Yarowsky, J. Owens, P. Black-Cleworth, and T. Crow 385
Saccadic discharges evoked by intracellular stimulation of extraocular motoneurons. N. H. Barmack 395
Primary afferent hyperpolarization and presynaptic facilitation of Ia afferent terminals induced by large cutaneous fibers. P. Rudomin, R. Nuñez, J. Madrid, and R. E. Burke .. 413
Contribution of nonspecific thalamus to sensory evoked activity in cat postcruciate cortex. J. H. O'Brien and S. M. Rosenblum 430
Variation in gustatory nerve fiber discharge pattern with change in stimulus concentration and quality. H. Ogawa, S. Yamashita, and M. Sato 443
Neural control of circulation in *Aplysia*. I. Motoneurons. E. Mayeri, J. Koester, I. Kupfermann, G. Liebeswar, and E. R. Kandel 458
Neural control of circulation in *Aplysia*. II. Interneurons. J. Koester, E. Mayeri, G. Liebeswar, and E. R. Kandel 476
Selective firing by cat pontine brain stem neurons in desynchronized sleep. J. A. Hobson, R. W. McCarley, R. T. Pivik, and R. Freedman 497
Medial geniculate body: unit responses in the awake cat. L. M. Aitkin and S. M. Prain .. 512
Blockage of inhibition by ammonium acetate action on chloride pump in cat trochlear motoneurons. R. Llinás, R. Baker, and W. Precht 522
Superior colliculus neurons studied during head and eye movements of the behaving monkey. D. L. Robinson and C. D. Jarvis 533
Structural study of inferior olivary nucleus of the cat: morphological correlates of electrotonic coupling. C. Sotelo, R. Llinás, and R. Baker 541
Electrotonic coupling between neurons in cat inferior olive. R. Llinás, R. Baker, and C. Sotelo 560
Announcements 572

NO. 4. JULY 1974

Analysis of difference between potentials evoked by climbing fibers in cerebellum of cat and turtle. H. Bantli 573
Prolonged excitatory and inhibitory synaptic modulation of a bursting pacemaker neuron. I. Parnas, D. Armstrong, and F. Strumwasser 594
Mechanisms of long-lasting inhibition of a bursting pacemaker neuron. I. Parnas and F. Strumwasser 609
Response of units in striate cortex of squirrel monkeys to visual and electrical stimuli. J. R. Bartlett and R. W. Doty, Sr. 621
Influence of mesencephalic stimulation on unit activity in striate cortex of squirrel monkeys. J. R. Bartlett and R. W. Doty, Sr. 642
Dynamic characteristics of responses to horizontal head angular acceleration in vestibulo-ocular pathway in the cat. Y. Shinoda and K. Yoshida 653
Receptive-field properties of superior colliculus cells and development of visual behavior in kittens. T. T. Norton 674
A supraspinal monosynaptic input to hindlimb motoneurons in lumbar spinal cord of the frog, *Rana catesbiana*. W. L. R. Cruce 691
Gravity responses of neurons in main reticular formation. K. M. Spyer, B. Ghelarducci, and O. Pompeiano 705
Properties of cat retinal ganglion cells: a comparison of W-cells with X- and Y-cells. J. Stone and Y. Fukuda 722

Retinal distribution and central projections of Y-, X-, and W-cells of the cat's retina. Y. Fukuda and J. Stone 749
Circling spreading depression in isolated chick retina. H. Martins-Ferreira, G. de Oliveira Castro, C. J. Struchiner, and P. S. Rodrigues 773
Liberation of chemical factors during spreading depression in isolated retina. H. Martins-Ferreira, G. de Oliveira Castro, C. J. Struchiner, and P. S. Rodrigues 785
Effects of dentate cooling on rapid alternating arm movements. B. Conrad and V. B. Brooks 792
Adrenergic mediation of slow inhibitory postsynaptic potential in sympathetic ganglia of the frog. B. Libet and H. Koybayashi 805
Synaptic release of radioactivity after intrasomatic injection of choline-^{3}H into an identified cholinergic interneuron in abdominal ganglion of *Aplysia californica*. H. Koike, E. R. Kandel, and J. H. Schwartz 815
R. W. Gerard 828
Announcement 830

NO. 5. SEPTEMBER 1974

Sensory transmission through lemniscal pathway during voluntary movement in the cat. J. D. Coulter 831
Modification of neuron properties by electrotonic synapses. I. Input resistance, time constant, and integration. P. A. Getting 846
Modification of neuron properties by electrotonic synapses. II. Burst formation by electrotonic synapses. P. A. Getting and A. O. D. Willows 858
Nonlinear identification theory models for successive stages of visual nervous systems of flies. G. D. McCann 869
Characteristics of unit responses in superior colliculus of the *Cebus* monkey. B. V. Updyke 896
Regional diversity in excitatory and inhibitory receptive-field organization of cat thalamic ventrobasal neurons. Y. Iwamura and S. Inubushi 910
Functional organization of receptive fields in thalamic ventrobasal neurons examined by neuronal response to iterative electrical stimulation of skin. Y. Iwamura and S. Inubushi 920
Functional classes of cells and their laminar distribution in monkey visual cortex. B. M. Dow 927
Extracellular current density analysis of response in cerebellar cortex to mossy fiber activation. H. C. Kwan and J. T. Murphy 947
Patterns of mandibular movement and jaw muscle activity during mastication in the monkey. E. S. Luschei and G. M. Goodwin 954
Effects of destroying spindle afferents from jaw muscles on mastication in monkeys. G. M. Goodwin and E. S. Luschei 967
Neuronal activity before and during eye movements in thalamic internal medullary lamina of the cat. J. Schlag, I. Lehtinen, and M. Schlag-Rey 982
Local, reflex, and central commands controlling gill and siphon movements in *Aplysia*. I. Kupfermann, T. J. Carew, and E. R. Kandel 996
Physiological and biochemical properties of neuromuscular transmission between identified motoneurons and gill muscle in *Aplysia*. T. J. Carew, H. Pinsker, K. Rubinson, and E. R. Kandel 1020
Receptive fields and response properties of mechanoreceptor neurons innervating siphon skin and mantle shelf in *Aplysia*. J. Byrne, V. Castellucci, and E. R. Kandel 1041
Inhibitory processes and interneuronal apparatus in motor cortex during sleep and waking. I. Background firing and responsiveness of pyramidal tract neurons and interneurons. M. Steriade, M. Deschênes, and G. Oakson 1065
Inhibitory processes and interneuronal apparatus in motor cortex during sleep and waking. II. Recurrent and afferent inhibition of pyramidal tract neurons. M. Steriade and M. Deschênes 1093
Announcements 1114

NO. 6. NOVEMBER 1974

Electrogenic sources of slow voltage transients recorded from frog olfactory epithelium. T. V. Getchell 1115
Efferent influences on carotid body chemoreceptors. C. Belmonte and C. Eyzaguirre 1131

Synaptic inhibition in pyramidal tract neurons: membrane potential and conductance changes evoked by pyramidal tract and cortical surface stimulation. L. P. RENAUD, J. S. KELLY, AND L. PROVINI 1144
Responses to tonal stimuli of single auditory nerve fibers and their relationship to basilar membrane motion in the squirrel monkey. C. D. GEISLER, W. S. RHODE, AND D. T. KENNEDY 1156
Motor organization and generation of rhythmic feeding output in buccal ganglion of *Pleurobranchaea*. M. V. S. SIEGLER, G. J. MPITSOS, AND W. J. DAVIS 1173
Visuokinetic activities of primate prefrontal neurons during delayed-response performance. K. KUBOTA, T. IWAMOTO, AND H. SUZUKI 1197
Repetitive firing: dynamic behavior of sensory neurons reconciled with a quantitative model. J. F. FOHLMEISTER, R. E. POPPELE, AND R. L. PURPLE 1213
Role of regional cellular geometry in conduction of excitation along a sensory neuron. DEF. MELLON, JR. AND C. KAARS 1228
Interactions between neurons in auditory cortex of the cat. J. W. DICKSON AND G. L. GERSTEIN 1239
Inhibitory effect of remote visual stimuli on visual responses of cat superior colliculus: spatial and temporal factors. G. RIZZOLATTI, R. CAMARDA, L. A. GRUPP, AND M. PISA ... 1262
Effects of early monocular deprivation on visual input to cat superior colliculus. K.-P. HOFFMANN AND S. M. SHERMAN 1276
Effects of temperature on carotid chemoreceptor and baroreceptor activity. D. S. MCQUEEN AND C. EYZAGUIRRE 1287
Time course of discharge rate changes by cat pontine brain stem neurons during sleep cycle. J. A. HOBSON, R. W. MCCARLEY, R. FREEDMAN, AND R. T. PIVIK 1297
Effects of projected cortical epileptiform discharges on neuronal activities in cat VPL. I. Interictal discharge. M. J. GUTNICK AND D. A. PRINCE 1310
Quantitative measures of output of a motoneuron pool during monosynaptic reflexes. H. P. CLAMANN, J. D. GILLIES, R. D. SKINNER, AND E. HENNEMAN 1328
Rank order of motoneurons within a pool: law of combination. E. HENNEMAN, H. P. CLAMANN, J. D. GILLIES, AND R. D. SKINNER 1338
Effects of inhibitory inputs on critical firing level and rank order of motoneurons. H. P. CLAMANN, J. D. GILLIES, AND E. HENNEMAN 1350
Cutaneous receptors supplied by myelinated fibers in the cat. I. Number of receptors innervated by a single nerve. D. WHITEHORN, J. F. HOWE, M. J. LESSLER, AND P. R. BURGESS 1361
Cutaneous receptors supplied by myelinated fibers in the cat. II. Number of mechanoreceptors excited by a local stimulus. P. R. BURGESS, J. F. HOWE, M. J. LESSLER, AND D. WHITEHORN 1373
Selectivity of microelectrodes in recordings from cat retinal ganglion cells. W. R. LEVICK AND B. G. CLELAND 1387
Orientation specificity of cells in cat striate cortex. G. H. HENRY, B. DREHER, AND P. O. BISHOP 1394
Responses of interpositus neurons to passive muscle stretch. W. A. MACKAY AND J. T. MURPHY 1410
Temporal patterns of responses of interpositus neurons to peripheral afferent stimulation. J. C. ECCLES, I. ROSÉN, P. SCHEID, AND H. TÁBOŘÍKOVÁ 1424
Patterns of convergence onto interpositus neurons from peripheral afferents. J. C. ECCLES, I. ROSÉN, P. SHEID, AND H. TÁBOŘÍKOVÁ 1438
Somatotopic studies on cerebellar interpositus neurons. J. C. ECCLES, T. RANTUCCI, I. ROSÉN, P. SHEID, AND H. TÁBOŘÍKOVÁ 1449
Indexes 1460

Papers in this issue were accepted in final form between June 28 and August 20, 1974.

2. BERMAN, A. L. *The Brain Stem of the Cat.* Madison: Univ. of Wisconsin Press, 1968.
3. COURVILLE, J. Somatotopical organization of the projection from the nucleus interpositus anterior of the cerebellum to the red nucleus. An experimental study in the cat with silver impregnation methods. *Exptl. Brain Res.* 2: 191–215, 1966.
4. ECCLES, J. C., ITO, M., AND SZENTÁGOTHAI, J. *The Cerebellum as a Neuronal Machine.* Berlin: Springer, 1967, p. 335.
5. ECCLES, J. C., RANTUCCI, T., SABAH, N. H., AND TÁBOŘÍKOVÁ, H. Somatotopic studies on cerebellar fastigial cells. *Exptl. Brain Res.* 19: 100–118, 1974.
6. ECCLES, J. C., ROSÉN, I., SCHEID, P., AND TÁBOŘÍKOVÁ, H. Temporal patterns of responses of interpositus neurons to peripheral afferent stimulation. *J. Neurophysiol.* 37: 1424–1437, 1974.
7. ECCLES, J. C., ROSÉN, I., SCHEID, P., AND TÁBOŘÍKOVÁ, H. Patterns of convergence onto interpositus neurons from peripheral afferents. *J. Neurophysiol.* 37: 1438–1448, 1974.
8. ECCLES, J. C., SABAH, N. H., AND TÁBOŘÍKOVÁ, H. Excitatory and inhibitory responses of neurones of the cerebellar fastigial nucleus. *Exptl. Brain Res.* 19: 61–77, 1974.
9. ECCLES, J. C., SABAH, N. H., AND TÁBOŘÍKOVÁ, H. The pathways responsible for excitation and inhibition of fastigial neurones. *Exptl. Brain Res.* 19: 78–99, 1974.
10. ECCLES, J. C., SCHEID, P., AND TÁBOŘÍKOVÁ, H. Responses of red nucleus neurones to cutaneous afferent inputs. *Brain Res.* 53: 440–444, 1973.
11. Matsushita, M. and Iwahori, N. Structural organization of the fastigial nucleus. II. Afferent fiber systems. *Brain Res.* 25: 611–624, 1971.
12. POMPEIANO, O. Responses to electrical stimulation of the cerebellar anterior lobe in the decerebrate cat. *Arch. Ital. Biol.* 96: 330–360, 1958.
13. POMPEIANO, O. Functional organization of the cerebellar projections to the spinal cord. In: *Progress in Brain Research,* edited by C. A. Fox and R. S. Snider. Amsterdam: Elsevier, 1967, vol. 25, p. 282–321.
14. POMPEIANO, O. AND BRODAL, A. Experimental demonstration of a somatotopical origin of rubrospinal fibres in the cat. *J. Comp. Neurol.* 108: 225–252, 1957.
15. ROSÉN, I. AND SCHEID, P. Patterns of afferent input to the lateral reticular nucleus of the cat. *Exptl. Brain Res.* 18: 242–255, 1973.
16. ROSÉN, I. AND SCHEID, P. Responses to nerve stimulation in the bilateral ventral flexor reflex tract (bVFRT) of the cat. *Exptl. Brain Res.* 18: 256–267, 1973.
17. TOYAMA, K., TSUKAHARA, N., KOSAKA, K., AND MATSUNAMI, K. Synaptic excitation of red nucleus by fibres from interpositus nucleus. *Exptl. Brain Res.* 11: 187–198, 1970.
18. TOYAMA, K., TSUKAHARA, N., AND UDO, M. Nature of the cerebellar influences upon the red nucleus neurones. *Exptl. Brain Res.* 4: 292–309, 1968.
19. TSUKAHARA, N., TOYAMA, K., AND KOSAKA, K. Electrical activity of red nucleus neurones investigated with intracellular microelectrodes. *Exptl. Brain Res.* 4: 18–33, 1967.
20. UNO, M., YOSHIDA, M., AND HIROTA, I. The mode of cerebellothalamic relay transmission investigated with intracellular recording from cells of the ventrolateral nucleus of cat's thalamus. *Exptl. Brain Res.* 10: 121–139, 1970.
21. VOOGD, J. *The Cerebellum of the Cat.* Assen: Van Gorcum, 1964.
22. WALBERG, F. AND JANSEN, J. Cerebellar corticonuclear projection studied experimentally with silver impregnation method. *J. Hirnforsch.* 6: 338–354, 1964.

Subject Index to Volume XXXVII

Abducens nucleus
  motoneurons of, saccadic discharges evoked by intracellular stimulation of, 395–412
Action potentials
  in spinal motoneuron somata and axons induced by linearly rising currents, 303–309
Alpha-adrenergic antagonists
  effect on slow inhibitory postsynaptic potential in sympathetic ganglia of frog, 805–814
Ammonium acetate
  inhibition of chloride pump in cat trochlear motoneurons, blockage of, 522–532
Auditory nerve
  single-fiber responses to tonal stimuli in squirrel monkeys, 1156–1172
Axons
  central glomerular axons in turtle cerebellum, fine structure of, 1–29
  spinal motoneuron axons, responses in cats to linearly rising currents, 303–309

Baroreceptors: *see* Receptors, neural
Behavior
  delayed-response performance by monkeys, visuokinetic activities of prefrontal cortex neurons during, 1197–1212
Blood pressure
  carotid baroreceptor activity, effects of temperature on, 1287–1296
Brain
  central projections of Y-, X-, and W-cells of cat's retina, 749–772
Brain stem
  main reticular formation, gravity responses of neurons in, 705–721
  medial pontine reticular formation, participation in eye-movement generation in monkeys, 316–332
  pontine neurons, selective firing in desynchronized sleep in cats, 497–511
  pontine neurons, time course of discharge rate changes during sleep cycle in cats, 1297–1309

Cardiovascular system
  of *Aplysia*, interneuron function in, 476–496
  of *Aplysia*, motoneuron function in, 458–475
Carotid body
  chemoreceptor and baroreceptor activity, effects of temperature on, 1287–1296
  chemoreceptors of, efferent influences on, 1131–1143
  chemosensors of, mass receptor potential of, 156–169
Caudate nucleus
  single-unit neuronal responses to stimulation of frontal cortex, substantia nigra and entopeduncular nucleus in cats, 254–265
Central nervous system: see also Brain; Spinal cord
  control of excitatory and inhibitory neurons of opener muscle of crayfish claw, 108–118
Cerebellar cortex
  climbing fiber field potentials in cat and turtle, comparative analysis of differences, 573–593
  extracellular current density analysis in, 170–180
  mossy fiber activation in, extracellular current density analysis of responses to, 947–953
  responses to climbing fiber activation, study by extracellular current density analysis, 333–345
Cerebellum
  granular layer in turtle, fine structure of, 1–29
  interpositus neurons of, receptive fields of, 1438–1448
  interpositus neurons of, responses to passive muscle stretch in cats, 1410–1423
  interpositus neurons of, somatotopic studies on, 1449–1459
  interpositus neurons of, temporal patterns of responses to peripheral afferent stimulation, 1424–1437
  unitary potentials from granular layer in turtles, identification and correlation with structures, 30–47
Cerebral cortex
  auditory cortex of cat, interactions between neurons in, 1239–1261
  dorsolateral prefrontal cortex in monkeys, visuokinetic activities of neurons during delayed-response performance, 1197–1212
  frontal cortex stimulation, single-unit responses of caudate neurons to, 254–265
  motor area lesions, effect on acquisition of conditioned eye blink in cats, 385–394
  motor cortex, inhibitory processes and interneuronal apparatus during sleep and waking, 1065–1092, 1093–1113
  postcentral gyrus of *Macaca mulatta*, differential contributions of spinal pathways to body representation in, 119–145
  postcruciate cortex, effect of cryogenic blockade of centromedian thalamus on sensory evoked activity in, 430–442
  precentral and postcentral activity in association with visually triggered movement, 373–381
  projected epileptiform discharges in, effects on neuronal activities in cat thalamic nucleus ventralis posterolateralis, 1310–1327
  stimulation-evoking membrane potential and conductance changes in pyramidal tract neurons, 1144–1155
  striate cortex of cats, orientation specificity of cells in, 1394–1409
  striate cortex unit activity, influence of mesencephalic stimulation on, 642–652
  striate cortex units, response to visual and electrical stimuli, 621–641
  visual cortex ablation or cooling in monkeys, effect on response of single cells in superior colliculus, 181–194

visual cortex of monkey, functional classes of cells and their laminar distribution in, 927–946
visuovestibular interactions in cat superior colliculus, 146–155
Cerebral peduncles
entopeduncular nucleus stimulation in cats, single-unit responses of caudate neurons to, 254–265
Chemoreceptors: *see* Receptors, neural
Chlorides
pump in trochlear motoneurons of cat, blockage of inhibition by ammonium acetate, 522–532
Choline
injection into cholinergic interneuron in abdominal ganglion of *Aplysia*, synaptic release of radioactive label from, 815–827
Chorda tympani nerve
neuron discharge pattern of, variation with change in gustatory stimulus concentration and quality, 443–457
Cochlea
basilar membrane motion in relation to responses of single auditory nerve fibers to tonal stimuli, 1156–1172
nonlinearity of output in response to sound stimulation in cats, 218–253
Cochlear nucleus
anteroventral, phase-sensitive neurons of, 218–253
Cold
cooling of dentate nucleus, effects of rapid alternating arm movements in monkeys, 792–804
cooling of visual cortex in monkeys, effect on response of single cells in superior colliculus, 181–194
thalamic cooling block, influence on sensory evoked activity in postcruciate cortex of cat, 430–442
Colliculus, superior: *see* Superior colliculus
Conditioning
conditioned eye blink in cats, effect of lesions of cortical motor areas on acquisition of, 385–394
Crustacea
crayfish claw opener muscle, CNS control of excitatory and inhibitory neurons of, 108–118
crayfish sensory neuron, role of regional cellular geometry in conduction of excitation in, 1228–1238
crayfish stretch receptor, repetitive-firing behavior of, 1213–1227

Dentate nucleus
cooling of, effects on rapid alternating arm movements in monkeys, 792–804

Electric potentials: *see also*: Action potentials; Membrane potentials
extracellular current density analysis in cerebellar cortex, 170–180
field potentials evoked by climbing fibers in cerebellum of cat and turtle, comparative analysis of differences, 573–593
mass receptor potential of carotid body chemosensors, 156–169
unitary potentials from granular layer in turtle cerebellum, identification and correlation with structures, 30–47
Electric stimulation
effects of efferent stimulation on chemosensory activity of carotid body, 1131–1143
impulse generation in type I cutaneous mechanoreceptors, 267–281
inhibitory inputs, effects on critical firing level and rank order of motoneurons, 1350–1360
linearly rising currents, mechanisms of accomodation in cat spinal motoneurons to, 310–315
linearly rising currents, responses of cat spinal motoneuron somata and axons to, 303–309
of frontal cortex, substantia nigra and entopeduncular nucleus in cats, single-unit responses of caudate neurons to, 254–265
of ipsilateral cutaneous and high-threshold muscle afferents, discharge patterns of Renshaw cells evoked by, 294–302
of mesencephalon, influence on unit activity in striate cortex of squirrel monkeys, 642–652
of pyramidal tract and cortical surface causing membrane potential and conductance changes in pyramidal tract neurons, 1144–1155
of skin in study of functional organization of receptive fields in thalamic ventrobasal neurons, 920–926
response of units in striate cortex of squirrel monkeys to, 621–641
Electrodes
selectivity of microelectrodes in recordings from cat retinal ganglion cells, 1387–1393
Epilepsy
projected cortical epileptiform discharges, effects on neuronal activities in cat thalamic nucleus ventralis posterolateralis, 1310–1327
Extremities
glabrous skin of monkey hand, response of mechanoreceptive afferent fibers to vibratory stimuli, 48–72
hindlimb natural stimulation in monkeys, responses of spinothalamic tract neurons to, 358–372
rapid alternating arm movements in monkeys, effects of cooling of dentate nucleus on, 792–804
voluntary forelimb movement inducing potential changes in medial lemniscus in cat, 831–845
Eye movements
generation in monkeys, participation in medial pontine reticular formation in, 316–332
neuronal activity in superior colliculus of behaving monkey during, 533–540
neuronal activity in thalamic interral medullary lamina of cat before and during, 982–995
saccadic movements preceded by saccadic discharges evoked by intracellular stimulation of abducens and trochlear motoneurons, 395–412
Eyelids
conditioned eye blink in cats, effect of lesions of cortical motor areas on acquisition of, 385–394

Feeding
feeding rhythm in mollusk, motor organization and generation of, 1173–1196

Flies
visual nervous systems of, nonlinear identification theory models for, 869–895

Ganglia
abdominal ganglion of *Aplysia*, synaptic release of ^{3}H after injection of choline-^{3}H into cholinergic interneuron in, 815–827
buccal ganglion of mollusk, motor organization and generation of rhythmic feeding output in, 1173–1196
Ganglia, sympathetic
adrenergic mediation of slow inhibitory postsynaptic potential in, 805–814
Geniculate body, medial
unit responses in awake cat, 512–521
Gills
gill muscle in *Aplysia*, neuromuscular transmission between identified motoneurons and, 1020–1040
movements in *Aplysia*, neural control of, 996–1019
Golgi cells
in turtle cerebellum, fine structure of, 1–29
Granule cells
in turtle cerebellum, fine structure of, 1–29
Gravity
effect on neurons in main reticular formation of cats, 705–721

Hair
vibrissae of rats, response of single units in trigeminal nuclei to displacements of, 73–90
Head
neuronal activity in superior colliculus of behaving monkey during movement of, 533–540
Hearing
interactions between neurons in auditory cortex of cat during tonal stimulation, 1239–1261

Intermediate nucleus
interneurons in, identification of muscle afferents which activate them, 282–293
Interneurons
cardiovascular interneurons in *Aplysia*, 476–496
in abdominal ganglion of *Aplysia*, synaptic release of ^{3}H after injection of choline-^{3}H into cholinergic interneuron, 815–827
in intermediate nucleus, identification of muscle afferents which activate them, 282–293
in pyramidal tract, background firing and responsiveness during sleep and waking, 1065–1092

Mandible
patterns of movement during mastication in monkeys, 954–966
Mastication
effects of destroying spindle afferents from jaw muscles in monkeys on, 967–981
patterns of mandibular movement and jaw muscle activity in monkeys during, 954–966
Mechanoreceptors: *see* Receptors, neural
Membrane potentials
changes in pyramidal tract neurons evoked by pyramidal tract and cortical surface stimulation, 1144–1155
Mesencephalon
electric stimulation of, influence on unit activity in striate cortex of squirrel monkeys, 642–652
medial lemniscus, potential changes during voluntary forelimb movement in cat, 831–845
Microscopy, electron
of granular layer in turtle cerebellum, 1–29
of inferior olivary nucleus of cat, 541–559
Models, theoretical
for successive stages of visual nervous systems of flies, 869–895
Mollusca
Aplysia, cardiovascular interneurons of, 476–496
Aplysia, cardiovascular motoneurons of, 458–475
Aplysia, local, reflex, and central commands controlling gill and siphon movements in, 996–1019
Aplysia, mechanisms of long-lasting inhibition of bursting pacemaker neuron in, 609–620
Aplysia, neuromuscular transmission between identified motoneurons and gill muscle in, 1020–1040
Aplysia, prolonged synaptic modulation of bursting pacemaker neuron in, 594–608
Aplysia, receptive fields and response properties of mechanoreceptor neurons innervating siphon skin and mantle shelf in, 1041–1064
Aplysia, synaptic release of ^{3}H after injection of choline-^{3}H into cholinergic interneuron in abdominal ganglion of, 815–827
Pleurobranchaea, motor organization and generation of rhythmic feeding output in buccal ganglion of, 1173–1196
Tritonia, burst formation by electrotonic synapses in, 858–868
Tritonia, electrotonic synapses between neurons resulting in modified input resistance, time constant, and integration, 846–857
Motoneurons
cardiovascular motoneurons in *Aplysia*, 458–475
critical firing level and rank order of, effects of inhibitory inputs on, 1350–1360
feeding motoneurons in buccal ganglion of mollusk, 1173–1196
hindlimb motoneurons in lumbar spinal cord of frog, supraspinal monosynaptic input to, 691–704
local, reflex, and central commands controlling gill and siphon movement in *Aplysia*, 996–1019
motoneuron pool output during monosynaptic reflexes, quantitative measures of, 1328–1337
neuromuscular transmission between identified motoneurons and gill muscle in *Aplysia*, 1020–1040
of abducens and trochlear nuclei, intracellular stimulation evoking saccadic discharges, 395–412
of neck musculature in cats, connections between semicircular canals and, 346–357
of trochlear nucleus, blockage of inhibition by ammonium acetate on chloride pump in, 522–532
rank order of motoneurons within pool during monosynaptic reflexes, 1338–1349

spinal motoneuron somata and axons, responses in cats to linearly rising currents, 303–309
spinal motoneurons in cats, mechanisms of accommodation to linearly rising currents, 310–315
to oblique oculomotor muscles, responses in vestibular nystagmus, 195–217
Movement: *see also* Eye movements
body tilt, effect on neurons in main reticular formation of cats, 705–721
head movement of behaving monkey, neuronal activity in superior colliculus during, 533–540
horizontal head angular acceleration, responses in vestibuloocular pathway of cats to, 653–673
mandibular movement patterns during mastication in monkeys, 954–966
rapid alternating arm movements in monkeys, effects of cooling of dentate nucleus on, 792–804
visually triggered movement in monkeys, comparison of precentral and postcentral cortical activity during, 373–381
voluntary forelimb movement inducing potential changes in medial lemniscus in cat, 831–845
Muscles
afferents which activate interneurons in intermediate nucleus, identification of, 282–293
jaw muscle activity during mastication in monkeys, 954–966
jaw muscle spindle afferents, effects of destroying them on mastication in monkeys, 967–981
muscle spindles, repetitive-firing behavior of, 1213–1227
opener muscle of crayfish claw, CNS control of excitatory and inhibitory neurons of, 108–118
passive muscle stretch in cats, responses of interpositus neurons to, 1410–1423
stimulation of ipsilateral high-threshold muscle afferents evoking discharge patterns in Renshaw cells, 294–302

Neck
motoneurons in cat, connections between semicircular canals, and 346–357
Nervous system: *see also* Central nervous system
visual systems of flies, nonlinear identification theory models for, 869–895
Neural conduction
in crayfish sensory neuron, role of regional cellular geometry in, 1228–1238
Neural receptors: *see* Receptors, neural
Neuromuscular transmission
between identified motoneurons and gill muscle in *Aplysia*, 1020–1040
Neurons: *see also* Axons; Interneurons; Motoneurons
activities in thalamic nucleus ventralis posterolateralis, effects of projected cortical epileptiform discharges on, 1310–1327
activity in medial pontine reticular formation during various eye movements in monkeys, 316–332
activity in superior colliculus during head and eye movements of behaving monkey, 533–540
activity in thalamic internal medullary lamina of cat before and during eye movements, 982–995
bursting pacemaker neuron in *Aplysia*, mechanisms of long-lasting inhibition of, 609–620
bursting pacemaker neuron in *Aplysia*, prolonged synaptic modulation of, 594–608
caudate neurons, single-unit responses to stimulation of frontal cortex, substantia nigra and entopeduncular nucleus in cats, 254–265
coupled by electrotonic synapses resulting in modified input resistance, time constant, and integration, 846–857
crayfish sensory neuron, role of regional cellular geometry in conduction of excitation in, 1228–1238
ensemble synaptic behavior measured by extracellar current density analysis in cat cerebellar cortex 170–180
gustatory neuron discharge patterns, variation with change in stimulus concentration and quality, 443–457
in auditory cortex of cat, interactions between, 1239–1261
in main reticular formation, responses to body tilt, 705–721
in pyramidal tract, background firing and responsiveness during sleep and waking, 1065–1092
in pyramidal tract, recurrent and afferent inhibition during sleep and waking, 1093–1113
mechanoreceptor neurons innervating siphon skin and mantle shelf in *Aplysia*, 1041–1064
of inferior olivary nucleus of cat, electrotonic coupling between neurons, 560–571
of inferior olivary nucleus of cat, morphological correlates of electrotonic coupling, 541–559
of interpositus nuclei, receptive fields of, 1438–1448
of interpositus nuclei, responses to passive muscle stretch in cats, 1410–1423
of interpositus nuclei, somatotopic studies on, 1449–1459
of interpositus nuclei, temporal patterns of responses to peripheral afferent stimulation, 1424–1437
of opener muscle of crayfish claw, CNS control of, 108–118
of pyramidal tract, membrane potential and conductance changes evoked by pyramidal tract and cortical surface stimulation, 1144–1155
phase-sensitive neurons of anteroventral cochlear nucleus of cat, nonlinearity of cochlear output, 218–253
pontine brain stem neurons, selective firing in desynchronized sleep in cats, 497–511
pontine brain stem neurons, time course of discharge rate changes during sleep cycle in cats, 1297–1309
prefrontal cortex neurons, visuokinetic activities during delayed-response performance in monkeys, 1197–1212
quickly adapting mechanoreceptive afferent fibers in skin of monkey hand, response to vibratory stimuli, 48–72

respiratory neurons in pneumotaxic complex, spatial organization of, 91–107
sensory neurons, repetitive-firing behavior of, 1213–1227
single units in trigeminal nuclei of rats, responses to vibrissae displacements, 73–90
spinothalamic tract neurons, responses to natural stimulation of hindlimb in monkeys, 358–372
thalamic ventrobasal neurons, iterative electric stimulation of skin in study of functional organization of receptive fields in, 920–926
thalamic ventrobasal neurons, regional differences in excitatory and inhibitory receptive-field organization of, 910–919
trigger-group neurons in *Tritonia*, burst formation mediated by electrotonic synapses, 858–868
unit responses of medial geniculate body to tonal stimuli in awake cat, 512–521
Nucleus parabrachialis medialis
spatial organization of various respiratory neurons in, 91–107
Nystagmus
vestibular, organization in oblique oculomotor system, 195–217

Obituaries
George Holman Bishop, 382–383
Ralph Waldo Gerard, 828–829
Oculomotor nerve
oblique oculomotor system, organization of vestibular nystagmus in, 195–217
vestibuloocular reflex arc, dynamic characteristics of responses to horizontal head angular acceleration in, 653–673
Odors
stimulation of slow voltage changes at frog olfactory epithelium, 1115–1130
Olfactory epithelium
electrogenic sources of slow voltage transients recorded from, 1115–1130
Olivary nucleus, inferior
electrotonic coupling between neurons in, 560–571
structural study in cat, morphological correlates of electrotonic coupling, 541–559

Pyramidal tracts
neurons and interneurons in, background firing and responsiveness during sleep and waking, 1065–1092
neurons in, recurrent and afferent inhibition during sleep and waking, 1093–1113
synaptic inhibition in neurons of, membrane potential and conductance changes evoked by stimulation, 1144–1155

Receptors, neural
carotid body chemoreceptors, efferent influences on, 1131–1143
carotid body chemosensors, mass receptor potential of, 156–169
carotid chemoreceptor and baroreceptor activity, effects of temperature on, 1287–1296
crayfish stretch receptor, repetitive-firing behavior of, 1213–1227
cutaneous mechanoreceptor stimulation in somatotopic studies on cerebellar interpositus neurons, 1449–1459
cutaneous mechanoreceptor stimulation, patterns of convergence onto interpositus neurons from, 1438–1448
cutaneous mechanoreceptor stimulation, temporal patterns of responses of interpositus neurons to, 1424–1437
cutaneous receptors supplied by myelinated fibers, number of mechanoreceptors excited by local stimulus, 1373–1386
cutaneous receptors supplied by myelinated fibers, number of receptors innervated by single nerve, 1361–1372
jaw muscle spindle afferents, effects of destroying them on mastication in monkeys, 967–981
mechanoreceptor neurons innervating siphon skin and mantle shelf in *Aplysia*, 1041–1064
muscle spindles, repetitive-firing behavior of, 1213–1227
passive muscle stretch in cats, responses of interpositus neurons to, 1410–1423
photoreceptors in flies, 869–895
quickly adapting mechanoreceptive afferent fibers in glabrous skin of monkey hand, response to vibratory stimuli, 48–72
type I cutaneous mechanoreceptors, impulse generation in, 267–281
vibrissae of rats, response of single units in trigeminal nuclei to displacements of, 73–90
Reflex
monosynaptic reflexes, quantitative measures of output of motoneuron pool during, 1328–1337
monosynaptic reflexes, rank order of motoneurons within pool in, 1338–1349
polysynaptic reflexes in ventral roots during Renshaw cell discharges evoked by stimulation of flexor reflex afferents, 294–302
stretch reflex, identification of muscle afferents which activate interneurons in intermediate nucleus, 282–293
vestibuloocular reflex arc, dynamic characteristics of responses to horizontal head angular acceleration in, 653–673
Renshaw cells
discharge patterns evoked by volleys in ipsilateral cutaneous and high-threshold muscle afferents, 294–302
Reptiles
turtle cerebellum, fine structure of granular layer in, 1–29
turtle cerebellum, unitary potentials from granular layer in, 30–47
turtle, climbing fiber field potentials in cerebellum, 573–593
Respiratory center
isolated cat preparation, study of spatial organization of various respiratory neurons in pneumotaxic complex, 91–107
Reticular formation: *see* Brain stem
Retina
circling spreading depression in isolated chick retina, 773–784

ganglion cell recordings in cats, selectivity of microelectrodes for, 1387–1393
spreading depression in isolated chick retina, liberation of chemical factors during, 785–791
W-cells in cats, comparison of properties with X- and Y-cells, 722-748
Y-, X-, and W-cells in cats, retinal distribution and central projections of, 749–772

Semicircular canals
connections to neck motoneurons in cats, 346–357
Skin
glabrous skin of monkey hand, response of mechanoreceptive afferent fibers to vibratory stimuli, 48–72
iterative electric stimulation in study of functional organization of receptive fields in thalamic ventrobasal neurons, 920–926
mechanoreceptor stimulation in somatotopic studies on cerebellar interpositus neurons, 1449–1459
mechanoreceptor stimulation, patterns of convergence onto interpositus neurons from, 1438–1448
mechanoreceptor stimulation, temporal patterns of responses of interpositus neurons to, 1424–1437
receptors supplied by myelinated fibers, number of mechanoreceptors excited by local stimulus, 1373–1386
receptors supplied by myelinated fibers, number of receptors innervated by single nerve, 1361–1372
stimulation of ipsilateral cutaneous afferents evoking discharge patterns in Renshaw cells, 294–302
type I mechanoreceptors of, impulse generation in, 267–281
Sleep
background firing and responsiveness of pyramidal tract neurons and interneurons during, 1065–1092
desynchronized sleep, selective firing by cat pontine brain stem neurons in, 497–511
recurrent and afferent inhibition of pyramidal tract neurons during, 1093–1113
time course of discharge rate changes by cat pontine brain stem neurons during, 1297–1309
Sound
phase-sensitive neurons of anteroventral cochlear nucleus of cat, nonlinearity of cochlear output, 218–253
tonal stimulation of neurons in medial geniculate body, responses in awake cat, 512–521
tonal stimuli responses of single auditory nerve fibers in squirrel monkeys, 1156–1172
Spinal cord: *see also* Pyramidal tracts
dorsal column-medial lemniscus system, sensory transmission during voluntary forelimb movement in cat, 831–845
hindlimb motoneurons in lumbar cord of frogs, supraspinal monosynaptic input to, 691–704
intermediate nucleus interneurons identification of muscle afferents which activate them, 282–293
motoneuron somata and axons, responses in cats to linearly rising currents, 303–309
motoneurons in cats, mechanisms of accommodation to linearly rising currents, 310–315
pathways to body representation in postcentral gyrus of *Macaca*, differential contributions of, 119–145
primary afferent hyperpolarization and presynaptic facilitation of Ia afferent terminals induced by large cutaneous fibers, 413–429
spinothalamic tract neurons, responses to natural stimulation of hindlimb in monkeys, 358–372
Spinal nerves
polysynaptic reflexes in ventral roots during Renshaw cell discharges evoked by stimulation of flexor reflex afferents, 294–302
Spreading depression
circling spreading depression in isolated chick retina, 773–784
in isolated chick retina, liberation of chemical factors during, 785–791
Substantia nigra
stimulation in cats, single-unit responses of caudate neurons to, 254–265
Superior colliculus
central projections of Y-, X-, and W-cells of cat's retina, 749–772
neuronal activity during head and eye movements of behaving monkey, 533–540
receptive-field development in, relation to development of visual behavior in kittens, 674–690
single-cell response in monkeys after ablation or cooling of visual cortex, 181–194
unit responses in *Cebus* monkeys, characteristics of, 896–909
visual input to, effects of early monocular deprivation in cats, 1276–1286
visual responses in, inhibitory effect of remote visual stimuli on, 1262–1275
visuovestibular interactions in cat, 146–155
Sural nerve
cutaneous receptors supplied by myelinated fibers in, number of mechanoreceptors excited by local stimulus, 1373–1386
cutaneous receptors supplied by myelinated fibers in, number of receptors innervated by single nerve, 1361-1372
stimulation inducing primary afferent hyperpolarization and presynaptic facilitation of Ia afferent terminals, 413–429
Sympathomimetics
effect on slow inhibitory postsynaptic potential in sympathetic ganglia of frog, 805–814
Synapses
electrotonic synapses between neurons mediating burst formation, 858–868
electrotonic synapses between neurons resulting in modified input resitance, time constant, and integration, 846–857

Taste
variation in gustatory nerve fiber discharge pat-

tern with change in stimulus concentration and quality, 443–457
Temperature: *see also* Cold
effects on carotid chemoreceptor and baroreceptor activity, 1287–1296
Thalamus
central projections of Y-, X-, and W-cells of cat's retina, 749–772
centromedian area of, contribution to sensory evoked activity in postcruciate cortex of cat, 430–442
internal medullary lamina of, neuronal activity before and during eye movements in cat, 982–995
nucleus ventralis posterolateralis, effects of projected cortical epileptiform discharges on neuronal activities in, 1310–1327
spinothalamic tract neurons, responses to natural stimulation of hindlimb in monkeys, 358–372
ventrobasal neurons of, iterative electric stimulation of skin in study of functional organization of receptive fields in, 920–926
ventrobasal neurons of, regional differences in excitatory and inhibitory receptive-field organization of, 910–919
Tongue
gustatory stimulation of, variation in gustatory nerve fiber discharge patterns with change in stimuli, 443–457
Trigeminal nucleus
single unit responses to displacements of rat vibrissae, 73–90
Tritium
synaptic release after injection of choline-^{3}H into cholinergic interneuron in abdominal ganglion of *Aplysia*, 815–827
Trochlear nucleus
motoneurons of, blockage of inhibition by ammonium acetate on chloride pump in, 522–532
motoneurons of, saccadic discharges evoked by intracellular stimulation of, 395–412

Vestibular nerve
vestibular nystagmus, organization in oblique oculomotor system, 195–217
vestibuloocular reflex arc, dynamic characteristics of responses to horizontal head angular acceleration in, 653–673
visuovestibular interactions in cat superior colliculus, 146–155
Vibration
response of quickly adapting mechanoreceptive afferent fibers in glabrous skin of monkey hand to, 48–72
Vision
early monocular deprivation in cats, effects on visual input to superior colliculus, 1276–1286
visual cortex ablation or cooling in monkeys, effect on response of single cells in superior colliculus, 181–194
visual cortex of monkey, functional classes of cells and their laminar distribution in, 927–946
Visual perception
remote visual stimuli, inhibitory effect on visual responses of cat superior colliculus, 1262–1275
stimulus orientations and orientation specificity of cells in cat striate cortex, 1394–1409
visual behavior development in kittens, relation to receptive-field properties of superior colliculus cells, 674–690
visual input to superior colliculus, effects of early monocular deprivation in cats, 1276–1286
visual nervous systems of flies, nonlinear identification theory models for, 869–895
visual stimulation of *Cebus* monkeys, unit responses in superior colliculus, 896–909
visual stimulation responses of units in striate cortex of squirrel monkeys, 621–641
visually triggered movement in monkeys, comparison of precentral and postcentral cortical activity during, 373–381
visuokinetic activities of prefrontal neurons during delayed-response performance in monkeys, 1197–1212
visuovestibular interactions in cat superior colliculus, 146–155

Wakefulness
background firing and responsiveness of pyramidal tract neurons and interneurons during, 1065–1092
recurrent and afferent inhibition of pyramidal tract neurons during, 1093–1113

Author Index to Volume XXXVII

Aitkin, L. M., 512
Armstrong, D., 594
Atluri, R. L., 1

Baker, R., 195, 522, 541, 560
Bantli, H., 573
Barmack, N. H., 395
Bartlett, J. R., 621, 642
Belmonte, C., 1131
Berman, N., 181
Berthoz, A., 195
Bertrand, F., 91
Bishop, P. O., 1394
Bisti, S., 146
Black-Cleworth, P., 385
Brooks, V. B., 792
Burgess, P. R., 267, 1361, 1373
Burke, R. E., 413
Byrne, J., 1041

Camarda, R., 1262
Carew, T. J., 996, 1020
Castellucci, V., 1041
Clamann, H. P., 1328, 1338, 1350
Cleland, B. G., 1387
Conrad, B., 792
Coulter, J. D., 358, 831
Crow, T., 385
Cruce, W. L. R., 691
Cynader, M., 181

Davis, W. J., 1173
de Oliveira Castro, G., 773, 785
Deschenès, M., 1065, 1093
Dickson, J. W., 1239
Doty, R. W., Sr., 621, 642
Dow, B. M., 927
Dreher, B., 1394
Dreyer, D. A., 119

Eccles, J. C., 1424, 1438, 1449
Evarts, E. V., 373
Eyzaguirre, C., 156, 1131, 1287

Fohlmeister, J. F., 1213
Freedman, R., 497, 1297
Fukuda, Y., 722, 749

Geisler, C. D., 1156
Gerstein, G. L., 1239
Getchell, T. V., 1115
Getting, P. A., 846, 858
Ghelarducci, B., 705
Gibson, M. M., 218
Gillies, J. D., 1328, 1338, 1350
Goldfarb, J., 294
Goodwin, G. M., 954, 967
Grupp, L. A., 1262
Gutnick, M. J., 1310

Henneman, E., 1328, 1338, 1350
Henry, G. H., 1394
Hind, J. E., 218
Hobson, J. A., 497, 1297
Hoffman, K.-P., 1276
Horch, K. W., 267
Houk, J. C., 1, 30
Howe, J. F., 1361, 1373
Hugelin, A., 91

Inubushi, S., 910, 920
Iwamoto, T., 1197
Iwamura, Y., 910, 920

Jarvis, C. D., 533
Johnson, K. O., 48

Kaars, C., 1228
Kandel, E. R., 458, 476, 815, 996, 1020, 1041
Keller, E. L., 316
Kelly, J. S., 1144
Kennedy, D. T., 1156
Kitzes, L. M., 218
Kobayashi, H., 805
Koester, J., 458, 476
Koike, H., 815
Kubota, K., 1197
Kupfermann, I., 458, 996
Kwan, H. C., 170, 333, 947

Lehtinen, I., 982
Lessler, M. J., 1361, 1373
Levick, W. R., 1387
Libet, B., 805, 828
Liebeswar, G., 458, 476
Liles, S. L., 254
Llinás, R., 522, 541, 560
Lucas, M. E., 282
Luschei, E. S., 954, 967

MacKay, W. A., 1410
Madrid, J., 413
Maeda, M., 346
Maffei, L., 146
Martins-Ferreira, H., 773, 785
Maunz, R. A., 358
Mauritz, K.-H., 303, 310
Mayeri, E., 458, 476
McCann, G. D., 869
McCarley, R. W., 497, 1297
McQueen, D. S., 1287
Mellon, D., Jr., 1228
Metz, C. B., 119
Mpitsos, G. J., 1173
Mugnaini, E., 1, 30
Murphy, J. T., 170, 333, 947, 1410

Nacimiento, A. C., 303, 310
Nishi, K., 156
Norton, T. T., 674
Nuñez, R., 413

Oakson, G., 1065
O'Brien, J. H., 430
Ogawa, H., 443
O'Leary, J. L., 382
Owens, J., 385

Parnas, I., 594, 609
Piccolino, M., 146
Piercey, M. F., 294
Pinsker, H., 1020
Pisa, M., 1262
Pivik, R. T., 497, 1297
Pompeiano, O., 705
Poppele, R. E., 1213
Prain, S. M., 512
Precht, W., 522
Prince, D. A., 1310
Provini, L., 1144
Purple, R. L., 1213

Renaud, L. P., 1144
Rhode, W. S., 1156
Richter, D. W., 303, 310
Rizzolatti, G., 1262
Robinson, D. L., 533
Rodrigues, P. S., 773, 785
Rose, J. E., 218
Rosén, I., 1424, 1438, 1449
Rosenblum, S. M., 430
Rubinson, K., 1020
Rudomin, P., 413

Sato, M., 443
Scheid, P., 1424, 1438, 1449
Schiller, P. H., 181
Schlag, J., 982
Schlag-Rey, M., 982
Schlue, W. R., 303, 310
Schneider, R. J., 119
Schwartz, J. H., 815
Sherman, S. M., 1276
Shinoda, Y., 653
Shipley, M. T., 73
Siegler, M. V. S., 1173
Skinner, R. D., 1328, 1338
Smith, D. O., 108
Sotelo, C., 541, 560
Spyer, K. M., 705
Steriade, M., 1065, 1093

Stone, J., 722, 749
Struchiner, C. J., 773, 785
Strumwasser, F., 594, 609
Stryker, M., 181
Suzuki, H., 1197

Táborská, H., 1424, 1438, 1449
Trevino, D. L., 358

Updyke, B. V., 896

Vibert, J. F., 91

Walsh, J. V., 30
Whitehorn, D., 267, 1361, 1373
Whitsel, B. L., 119
Willis, W. D., 282, 358
Willows, A. O. D., 858
Wilson, V. J., 346
Woody, C., 385

Yamashita, S., 443
Yarowsky, P., 385
Yoshida, K., 653